

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE IMPLEMENTATION OF KENTUCKY'S	)	
RESIDENTIAL CONSERVATION SERVICE	)	
PLAN PURSUANT TO PART I TITLE II,	)	
OF THE NATIONAL ENERGY CONSERVATION	)	
POLICY ACT OF 1978, AS MODIFIED.	)	
	)	ADMINISTRATIVE
1. KENTUCKY POWER COMPANY	)	CASE NO. 318
2. KENTUCKY UTILITIES COMPANY	)	
3. LOUISVILLE GAS & ELECTRIC COMPANY	)	
4. THE UNION LIGHT, HEAT & POWER COMPANY	)	
5. GREEN RIVER ELECTRIC CORPORATION	)	
6. HENDERSON-UNION RURAL ELECTRIC	)	
COOPERATIVE CORPORATION	)	
7. COLUMBIA GAS OF KENTUCKY, INC.	)	
8. WESTERN KENTUCKY GAS COMPANY	)	

O R D E R

On January 6, 1983, the Commission issued an Order in Administrative Case No. 245 requiring the utilities listed in Section 1.02 of Kentucky's Residential Conservation Service ("RCS") Plan to participate in the RCS program.

Each covered utility filed with the Commission its plan of compliance with Kentucky's RCS plan. The individual plans were reviewed and approved by the Commission thus initiating the program. The basis for the Kentucky RCS Plan is Title II of PL 95-619, the National Energy Conservation Policy Act ("NECPA") passed on October 14, 1978. Title I of the Conservation Service Reform Act of 1986 ("CSRA") amended NECPA, Title II.

The Commission, having examined the requirements imposed by United States Department of Energy Administrative Regulations,

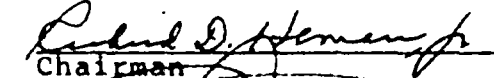
published in the September 9, 1987, Volume of the Federal Register (CFR Vol. 52, No. 174, Part X) in response to CSRA, has determined that the requirements of Kentucky's RCS plan should be modified.


IT IS THEREFORE ORDERED that this case be, and it hereby is, established to modify Kentucky's RCS plan.

IT IS FURTHER ORDERED that all utilities covered by the Modified Kentucky Residential Conservation Service Plan, attached as Appendix A, shall comply with the plan and shall file with the Commission their modified plan of compliance with the Kentucky Residential Conservation Service Plan within 45 days of the date of this Order.

Done at Frankfort, Kentucky, this 13th day of November, 1987.

PUBLIC SERVICE COMMISSION

  
Chairman

  
Vice Chairman

  
Commissioner

ATTEST:

\_\_\_\_\_  
Executive Director

RESIDENTIAL CONSERVATION SERVICE PLAN

COMMONWEALTH OF KENTUCKY

November, 1987

KENTUCKY PUBLIC SERVICE COMMISSION  
730 Schenkel Lane  
Frankfort, KY 40601

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## 1.01 PROGRAM OBJECTIVES AND SCOPE OF BENEFITS

The Kentucky Residential Conservation Service (RCS) Program is designed to save energy in existing homes and has as its goal a reduction in the use of non-renewable energy resources. This program was initiated as a result of the National Energy Conservation Policy Act (NECPA) of November, 1978, (PL-95-619, Title II, Part I) as amended by Public Law 99-412, the Conservation Service Reform Act of 1986 (CSRA), Title I. Further, this plan is based on the administrative regulations promulgating the program as published in the September 9, 1987, Federal Register, Vol. 52, No. 174 ("Federal Register").

This program assures that customers of covered utilities will be provided with appropriate energy conservation information, will be offered an energy audit of their residence and when requested, will be provided assistance in arranging for the installation and/or financing of energy conservation measures.

## 1.02 COVERAGE OF STATE PLAN

1. The Department of Energy in its RCS rules in the Federal Register, Section 456.105, provided the following definition of a "covered utility." The term "covered utility" means in any calendar year a public utility which during the second preceding calendar year had either:
  - (a) Sales of natural gas for purposes other than resale which exceeded 10 billion cubic feet, or
  - (b) Sales of electrical energy for purposes other than resale which exceed 750 million kilowatt-hours.
2. The following are covered utilities in Kentucky:
  - A. Gas Utilities
    1. Columbia Gas of Kentucky, Inc.
    2. Louisville Gas and Electric Company
    3. The Union Light, Heat and Power Company
    4. Western Kentucky Gas Company
  - B. Electric Utilities
    1. Kentucky Power Company
    2. Kentucky Utilities Company
    3. Louisville Gas and Electric Company
    4. The Union Light, Heat and Power Company

### C. Rural Electric Cooperatives

1. Green River Electric Corporation
  2. Henderson-Union Rural Electric Cooperative Corporation
3. The home heating suppliers as defined in Section 456.105 of the federal rule are not included in the state plan.
  4. Other utilities in Kentucky are permitted to participate in this program. For purposes of this program, these participating utilities shall also be referred to as covered utilities.

#### 1.03 DEFINITIONS

Definitions for terms can be found in Section 456.105 of the RCS rules in the Federal Register. These definitions are hereby adopted by reference. See Appendix A for definitions specifically referenced in this plan.

#### 1.04 COMPLIANCE PROCEDURES

1. All covered utilities are required to comply with the Kentucky Residential Service Plan. Each covered utility shall submit for approval by the Kentucky Public Service Commission (PSC) its written description for complying with the State Plan within 45 days after its issuance. Utilities may change or modify plans, subject to PSC approval.
2. Non-compliance with the State Plan by the utility may result in non-recovery by the utility of some or all RCS program cost allowance (as determined by the PSC) through the rate adjustment for the program during the period of non-compliance.
3. Non-compliance with residential audit requirements by the utility may result in the return of the customer's charge for the audit.
4. Utilities which supply, install, or finance the sale or installation of energy conservation or renewable resource measures shall comply with the provisions of Section 456.304 of the RCS Rules published in the Federal Register.

#### 1.05 UTILITY SUPPLY, INSTALLATION AND FINANCING FOR ENERGY CONSERVATION AND RENEWABLE RESOURCE MEASURES

1. All covered utilities are prohibited from supplying and installing energy conservation and renewable resource

measures except those identified in Section 456.503 of the RCS rules published in the Federal Register. However, this prohibition from supplying and installing of energy conservation and renewable resource measures shall not apply in the following three cases:

- (a) The utility had been providing or advertising the service prior to November 9, 1978, as described in Section 456.505 of the RCS rules published in the Federal Register, and the utility has received a final determination from the Department of Energy in accordance with Section 456.509 of the same RCS rules; or
  - (b) The utility has been granted a waiver in accordance with Section 456.507 and Section 456.509 of the RCS rules published in the Federal Register; or
  - (c) The utility provides the supplying and installing of energy conservation and renewable resource measures through contracts with independent suppliers or contractors as described in Section 456.504 of the RCS rules published in the Federal Register, and the utility notifies the Assistant Secretary for Conservation and Renewable Energy, Department of Energy, when such program becomes effective in accordance with Section 456.508 of the same RCS rules. The utility shall comply with the requirement under Section 456.511 dealing with accounting, costing, billing and repayment provisions.
- 2. If any covered utility undertakes the supply or installation of energy conservation and renewable resource measures, it shall in its written plan of procedures, described in Section 1.04(1) above, demonstrate that it will conduct such activities in a manner as discussed in Sections 456.304 and 504 of the RCS rules published in the Federal Register.
  - 3. A covered utility may provide financing for the energy conservation and renewable resource measures, if it demonstrates in its written plan of procedures, described in Section 1.04(1) above, that it will conduct such activity in a non-discriminatory and competitive manner as discussed in Section 456.304 of the RCS rules published in the Federal Register, and the utility notifies the Assistant Secretary for Conservation and Renewable Energy, Department of Energy, when such activity becomes effective in accordance with Section 456.508 of the same RCS rules.
  - 4. The PSC may hold periodic hearings to consider the problems and benefits potentially associated with utility supply, installation and financing of energy conservation and renewable resource measures.

## 1.06 PROGRAM ANNOUNCEMENT

An announcement of the RCS program shall be provided to each eligible customer of a covered utility.

This program announcement shall meet the following minimum requirements:

### 1. Distribution

- (a) Each eligible customer shall be provided a program announcement within 6 months of approval of the final State Plan.
- (b) Any person becoming a new eligible customer after the initial distribution of the program announcement shall be provided a program announcement within 60 days of becoming an eligible customer.
- (c) A redistribution of the program announcement to then current eligible customers shall be made every 2 years after the initial program announcement, except should this schedule be interrupted by program requirement changes by Congress or the Department of Energy, a revised distribution schedule consistent with the intent of this part shall be announced by the PSC. Notwithstanding 1.06, 1(b), no utility shall be required to redistribute the program announcement more than one time during the period August 28, 1986, to June 30, 1989.

### 2. Content

(a) The program announcement shall contain:

- (i) A list of the program measures (see Appendix B);
  - (ii) A reasonable estimate (or range of estimates) of the savings in energy costs for a specified period of time which are likely to result from installation of each program measure in a typical residence as described in Part 456, Appendix II of the RCS rules published in the Federal Register. The calculation procedures used for estimating cost and savings (for each category of residential building) likely to result from installation of suggested energy conservation measures will be based on accepted heat loss values derived from calculations used in the Federal Energy Audit Model, revised minimally for Kentucky conditions.
- (1) Estimates of savings for the program announcement calculations shall be based on an average typical Kentucky home using the annual heating and cooling seasons.



(2) Estimates for installation of suggested measures shall be based on recent prices for materials and average labor rates. Average prices of fuel for each category or residential building (electric, gas, oil, electric heat pump) and climate data (degree days) shall be representative of the locality (HUD/MPS Region) in which the eligible customer resides. These figures will use existing Federal and State survey data and the information shall be updated every 6 months.

(3) Envelope factors to be used are:

- A. Windows
- B. Ceiling
- C. Walls
- D. Doors
- E. Floors
- F. Foundation

Should a customer receive more than one announcement, these factors assure that the program announcement cost and savings estimates received by an eligible customer are substantially the same and consistent except for variations in the characteristics of the home, costs as related to the local fuel price index and climate data applicable to different parts of the state.

(4) The program announcement shall contain a disclaimer that the reasonable estimate figures projected are for an average typical Kentucky home. The average typical Kentucky home will use the following Department of Energy criteria: number of stories, type of construction, floor area, building dimensions, wall heights, attic area, type of floor construction, R-value of existing insulations (if any), total window area, window area facing south, door area, percentage (or length) of space-heating ducts (or pipes) in unconditioned space, number of air changes per hour (or other similar measure of air leakage) type of heating system and its average seasonal efficiency, type of air conditioning system and its Energy Efficiency Ratio (Btu/hour per watt). Each program measure will be assumed to be applicable, according to the criterial of Section VIII (b) (2). Statistical data shall be used (when available) to determine the characteristics of the typical house(s). The average value of

this data shall be used in specifying the typical house, except when the average value is one which does not occur in the housing stock. Individual estimates of savings will vary with the size, condition, options utilized and the lifestyle of each eligible customer.

- (iii) A list of state developed energy conserving practices appropriate for a residential dwelling in the utility's service area (see Appendix C of this plan) in accordance with Section 456.305 (a) (3) of the RCS regulations.
  - (iv) A reasonable estimate (or range of estimates) of the savings in energy costs for a specified period of time which are likely to result from the adoption of the energy conserving practices, individually or as a group;
  - (v) An offer to perform the audit service as required under Federal Register, Section 456.306 and a description of the service.
- (b) The program announcement, or any other program information shall not include advertising for the sale, installation or financing by any supplier, contractor or lender of any program.
  - (c) The information required under this section of the State Plan shall not unfairly discriminate nor be distributed in a manner that would unfairly discriminate against any measure, eligible customer, supplier, contractor, or lender.
  - (d) The program announcement may contain the stipulation that an eligible customer should, upon receipt of an offer to audit, request his or her audit from the covered utility which provides the primary heating fuel or energy source if such customer is served by more than one covered utility.

#### 1.07 PROGRAM AUDIT

- 1. Each covered utility shall offer to each of its eligible customers an on-site energy audit for a paid fee of \$15. The scheduling and services of the audit are as follows:
  - (a) An offer to perform a program audit shall be made to each eligible customer within a reasonable time after the initial program announcement mailing, but in no instance shall the time period exceed 24 months.

(b) Within 30 days after receipt of payment for a program audit the utility shall schedule the audit to be performed in a timely manner but not to exceed 60 days after such request. The program audit shall:

- (i) Address only the program measures approved by the Governor; and
- (ii) Address the energy conserving practices listed in Appendix C.
- (iii) After its completion, the auditor shall provide the customer with a written sample of the typical format of the audit results and a brief explanation of how to interpret such results.

(c) Within a reasonable time after completion of the program audit, each customer for whom an audit is performed shall receive a written report of the results of that audit which shall include:

- (i) An estimate of the total cost, expressed in dollars or a range of dollars, of installation by a contractor of each of the applicable program measures;
- (ii) An estimate of the total cost, expressed in dollars or a range of dollars, of purchase by the customer of each applicable program measure; and
- (iii) An estimate of savings in energy costs, expressed in dollars or a range of dollars, of each applicable program measure.

2. Each covered utility shall provide the customer a copy of the audit report without charge and shall retain in its files for not less than 5 years a copy of the report of each program audit performed pursuant to this State Plan. Each subsequent owner of a residential building covered under this program shall be informed of the availability of the audit report and provided a copy without charge.

3. Each covered utility and/or its auditors are prohibited from:

- (a) Discriminating unfairly among eligible customers in providing program audits;
- (b) Recommending any supplier, contractor or lender, if such recommendation would unfairly discriminate among them;

- (c) Discriminating unfairly among program measures; and
  - (d) Providing cost and savings estimates for furnace efficiency modifications with respect to a furnace which used as its primary source of energy any fuel other than that which is supplied by the covered utility unless the eligible customer requests such estimate in writing.
4. Covered utilities shall not be required to perform a program audit for an eligible customer who has received a program audit from any other covered utility nor be required to perform more than one program audit of a residential building unless requested by a new eligible customer.
  5. Each covered utility shall be required to have a qualified individual available at least during normal working hours to respond or arrange for response to inquiries regarding the written report on the results of the program audit.
  6. Each covered utility shall include, in its submittal required by Section 1.04(1), a description of its audit techniques in sufficient detail to enable the PSC to assure the validity of the program audit with respect to all program measures. To assure validity of the energy audit with respect to all program measures, the state shall use either the federal program audit model or a PSC approved audit model that meets the federal program audit standards. Audit programs which covered utilities may choose to use will be tested against the federal or state model for accuracy and such other audit programs must equal or exceed the results obtained on the state's program audit. Measurements and/or inspection procedures will be taken from the federal program audit requirements.

1.08 (Reserved)

#### 1.09 ACCOUNTING AND PAYMENT

All covered utilities shall account separately on their books and records for all costs and revenues attributable to this plan. Any expenses in excess of fees collected (see Section 1.07(1)) shall be treated as a current expense of providing utility service and charged to all ratepayers of the covered utility in the same manner as other current operating expenses.

#### 1.10 CUSTOMER BILLING, REPAYMENT OF LOANS, AND TERMINATION OF SERVICE

1. Covered utilities shall state separately on their billing for service those charges for activities carried out pursuant to this State Plan, including repayment of loans.

2. Covered utilities shall permit the repayment of any loan arranged by the utility pursuant to this State Plan as a separately stated part of the periodic bill, at the request of the eligible customer provided the lender agrees to reimburse the utility for the expense resulting in such manner of repayment.
3. Lenders shall not impose a penalty for prepayment of any portion of an outstanding loan made pursuant to this State Plan.
4. Covered utilities shall not terminate service to any customer by reason of default on payments pursuant to this State Plan. Payments shall be first credited toward utility service unless otherwise designated by the customer.

1.11 (Reserved)

#### 1.12 AUDITOR TRAINING/QUALIFICATION

Each covered utility shall assure that each person performing audits is trained to perform the necessary measurements, calculations, costs and savings estimates for the program measures and audit procedures. The utility will be responsible for providing evidence of auditor qualification to the PSC.

#### 1.13 COMPLAINTS AND REDRESS PROCEDURES

1. The Division of Consumer Protection of the Kentucky Attorney General's Office has established procedures for handling consumer complaints. It is recommended that customers having complaints against persons who may sell, install or finance program measures under the State Plan, use this established procedure in resolving such complaints.
2. Any person or covered utility seeking redress to corrective actions taken pursuant to this State Plan may, within a reasonable time of the action and upon written request, receive a review hearing by the PSC.
3. Any customer who has a complaint against a covered utility shall use the PSC's established complaint procedure in resolving such complaints.
4. Any person who alleges any injury resulting from a violation of the State Plan shall be entitled to redress through established Kentucky court procedures.

#### 1.14 COORDINATION

The PSC shall, to the extent possible, coordinate the procedures and implementation of this State Plan with all other state, local and federal conservation programs.

#### 1.15 REPORTING AND RECORDKEEPING

1. The PSC shall provide to the Assistant Secretary of the Department of Energy by July 1, 1982, and annually thereafter through June 30, 1989, a report of the RCS program activities within the Commonwealth of Kentucky for the 12 month period ending the preceding April 1.
2. All covered utilities shall provide to the PSC by May 15, 1983, and every May 15 thereafter, a report containing the information outlined in Section 456.316(b)(1) and (2) of the Federal Register for the 12 month period ending the preceding April 1.

#### 1.16 UTILITY LIABILITY

A covered utility that arranges for a lender to make a loan or a contractor to perform work for an eligible customer shall not be held liable by virtue of the utility's role in the RCS program in any cause of action between such customer and such lender or contractor.

#### 1.17 (Reserved)

## APPENDIX A

1. **Eligible Customer.** The term "eligible customer" means a person who:
  - (a) Owns or occupies a residential building or dwelling unit therein and receives a bill or bills based on individually metered energy use from a covered utility or participating home heating supplier for energy used in such residential building or individual dwelling unit, except that:
    - (1) The owner of the common area within a residential building containing five or more dwelling units shall not be treated as an eligible customer for the purpose of the common area; and
    - (2) This definition shall not apply to any building which has five or more dwelling units and which does not contain an individual meter for heating or cooling energy sources used in such dwelling unit.
2. **Energy Conservation Measures.** The term "energy conservation measure" means the measures identified in Appendix B.
3. **Energy Conserving Practices.** The term "energy conserving practices" means low or no cost practices including but not limited to those identified in Appendix C.
4. **Measure Warranties.**
  - (a) The term "manufacturer's measure warranty" means, at the minimum, a written warranty by the manufacturer of an energy conservation or renewable resource measure that the eligible customer for whom the measure is installed, the installation contractor who installs the measure, and the supplier of the measure shall be entitled to obtain, within a reasonable period of time and at no charge, appropriate replacement parts or materials for those measures found within 1 year from the date of installation to be defective due to materials, manufacture, or design;
  - (b) The term "supplier's measure warranty" means, at a minimum, a written warranty equivalent to that referred to in paragraph (a) above provided by the supplier of an energy conservation or renewable resource measure to persons who purchase the measure from the supplier;
  - (c) The term "contractor's measure warranty" means, at a minimum, a written warranty by a contractor

installing an energy conservation or renewable resource measure that any defect in materials, manufacture, design, or installation found within 1 year from the date of installation shall be remedied without charge and within a reasonable period of time.

5. Program Announcement. The term "program announcement" means the RCS program information and offer of services required to be provided by a covered utility.
6. Program Audit. The term "program audit" means an audit in which the estimates of costs and energy savings are based on an adequate assessment, including actual measurements or inspections, as appropriate, performed on-site by the auditor, of the building shell and of the space heating, space cooling, and water heating equipment of the residence of an eligible customer.
7. Program Information. The term "program information" means the program announcement and any information dissemination activities related to an RCS Program.
8. Program Measures. The term "program measures" means those energy conservation or renewable resource measures which have been determined to be appropriate by climatic region and building category and which are found in Appendix B.
9. PSC. The term "PSC" means the Kentucky Public Service Commission.
10. Public Utility. The term "public utility" means any person, State agency, or Federal agency which is engaged in the business of selling natural gas or electric energy, or both, to residential customers for use in a residential building.
11. Renewable Resource Measure. The term "renewable resource measure" means the measure identified in Appendix B.
12. Residential Building. The term "residential building" means any building used for residential occupancy which:
  - (a) Is not a new building to which final standards under Sections 304(a) and 305 of the Energy Conservation and Production Act apply;
  - (b) Has a system for heating or cooling or both.
13. Residential Conservation Service (RCS) Program. The term "Residential Conservation Service (RCS) Program" means the program required to be implemented by covered utilities pursuant to this State Plan and Federal regulation 10 CFR Part 456.



14. State measure. The term "state measure" means an energy-saving measure designated or approved by the PSC.
15. Devices Associated with Electric Load Management Techniques. The term "devices associated with electric load management techniques" means devices that reduce the maximum kilowatt demand of an electric utility and which are either:
  - (a) Part of radio, ripple or other utility controlled load switching system on the customer's premises;
  - (b) Clock-controlled load switching devices;
  - (c) Interlocks, and other load-actuated, load-limiting devices; or
  - (d) Energy storage devices with control systems.

## APPENDIX B

### RCS Program Measures Applicable to Kentucky

1. Caulking, which means pliable materials used to reduce the passage of air and moisture by filling small gaps which may include (a) at fixed joints on a building, (b) under baseboards inside a building, (c) in exterior walls at electric outlets, (d) around pipes and wires entering a building, and (e) around dryer vents and exhaust fans in exterior walls. Caulking includes, but is not limited to, materials commonly known as "sealants", "putty", and "glazing compounds".
2. Weatherstripping, which means narrow strips of materials placed over or in movable joints of windows and doors to reduce the passage of air and moisture.
3. Furnace Efficiency Modifications, which means:
  - a. Replacement Furnace or Boilers, which means a furnace or boiler including a heat pump that replaces an existing furnace or boiler of the same type and which reduces the amount of fuel consumed due to an increase in combustion efficiency, improved heat generating, or reduced heat losses.
  - b. Furnace Replacement Burner (Oil), which means a device that atomizes the fuel oil, mixes it with air, and ignites the fuel-air mixture, and is an integral part of an oil-fired furnace or boiler including the combustion chamber, and which, because of its design, achieves a reduction in the oil used from that used by the device which it replaces.
  - c. Flue Opening Modification (Venter Damper), which means an automatically operated damper installed in a gas-fired furnace which:
    - i. Is installed downstream from the drafthood; and
    - ii. Conserves energy by substantially reducing the flow of heated air through the chimney when the furnace is not in operation.
4. Ceiling Insulation, which means a material primarily designed to resist heat flow installed between the conditioned area of a building and an unconditioned attic. Where the conditioned area of a building extends to the roof, the term "ceiling insulation" also applies to such material used between the underside and upperside of the roof. The term "ceiling insulation" also includes such materials installed on the exterior of the roof.

5. Wall Insulation, which means a material, primarily designed to resist heat flow, installed within or on the walls between conditioned areas of a building and unconditioned areas of a building or the outside.
6. Floor Insulation, which means a material, primarily designed to resist heat flow, installed between the first level conditioned area of a building and an unconditioned basement, a crawl space, or the outside beneath it. Where the first level conditioned area of a building is on a ground level concrete slab, the term "floor insulation" also means such material installed around the perimeter of or on the slab. In the case of mobile homes, the term "floor insulation" also means skirting to enclose the space between the building and the ground.
7. Duct Insulation, which means a material primarily designed to resist heat flow installed on a heating or cooling duct in an unconditioned area of a building.
8. Pipe Insulation, which means a material primarily designed to resist heat flow installed on a heating or cooling pipe in an unconditioned area of a building.
9. Water Heater Insulation, which means a material primarily designed to resist heat flow suitable for wrapping around the exterior surface of the water heater casing.
10. Storm Window, which means a window or glazing material placed outside or inside an ordinary or prime window, creating an air space, to provide greater resistance to heat flow than the prime window alone;

or

Thermal Window, which means a window unit with improved thermal performance through the use of two or more sheets of glazing material affixed to a window frame to create one or more insulated air spaces. It may also have an insulating frame and sash.

11. Heat Reflective and Heat Absorbing Window or Door Material, which means a window or door glazing material with exceptional heat absorbing or heat reflecting properties; or reflective or absorptive films and coatings applied to an existing window or door which thereby result in exceptional heat absorbing or heat reflecting properties.

12. Clock Thermostat, which means a device that is designed to reduce energy consumption by regulating the demand on the heating or cooling system in which it is installed and which uses:
- (a) A temperature control device for interior spaces incorporating more than one temperature control level, and
  - (b) A clock or other automatic mechanism for switching from one control level to another.
13. Renewable Resource Measures, which means:
- a. Solarium/Sunspace System, which means a structure of glass, fiberglass or similar transparent or translucent material which is attached to the south-facing (plus or minus 45° of the true south) wall of a residential building for the purpose of collecting solar energy and which allows for air circulation to bring heat into the residence structure at night and during periods of low irradiation.
  - b. Window Heat Loss Retardant, which means a mechanism that significantly reduces winter heat loss through windows by use of external or internal devices, such as insulated rollup shades or movable rigid insulation, that cover the windows during the winter both at night and when no appreciable amount of sunlight is entering the window during the day.
  - c. Window Heat Gain Retardant, which means a mechanism that reduces summer heat gain through windows in the summer by use of devices such as awnings, solar screens or insulated rollup shades (external or internal).

## APPENDIX C

### Energy Conserving Practices

1. Furnace Efficiency Maintenance and Adjustments, which means cleaning and combustion efficiency adjustment of gas or oil furnaces, periodic cleaning or replacement of air filters on forced-air heating or cooling systems, lowering the bonnet or plenum thermostats to 80° F. on a gas or oil forced-air furnace, and turning off the pilot light on a gas furnace during the summer;
2. Nighttime Temperature Setback, which means manually lowering the thermostat control setting for the furnace during the heating season to a maximum of 55° F.\* during sleeping hours;
3. Reducing Thermostat Settings in Winter, which means setting the thermostat control setting for the furnace to 68° F.\* during the heating season;
4. Raising Thermostat Setting in Summer, which means setting the thermostat control for an air conditioner to 78° F. or higher during the cooling season;
5. Water Flow Reduction in Showers and Faucets, which means placing a device in a shower head or faucet to limit the maximum flow to three gallons per minute, or replacing existing shower heads or faucets with those having built-in provisions for limiting the maximum flow to three gallons per minute.
6. Reducing Hot Water Temperatures, which means manually setting back the water heater thermostat setting to 120° F., and reducing the use of heated water for clothes washing;
7. Reducing Energy Use When a Home is Unoccupied, which means reducing the thermostat setting to 55° F.\* when a home is empty for 4 hours or longer in the heating season, turning an air conditioner off in the cooling season when no one is home, and turning a water heater off when a home is vacant for 2 days or longer;
8. Plugging Leaks in Attics, Basements, and Fireplaces, which means a) installing scrap insulation or other pliable materials in gaps around pipes, ducts, fans, or other items which enter the attic or basement from a heated space, b) installing fireproof material to plug any holes around any damper in a fireplace, and c) adding insulation to an attic or basement door;

9. Sealing Leaks in Pipes and Ducts, which means installing caulking in any leak in a heating or cooling duct, tightening or plugging any leaking joints in hot water or steam pipes, and replacement of washers in leaking water valves;
10. Efficient Use of Shading, which means using shades or drapes a) to block sunlight from entering a building in the cooling season, b) to allow sunlight to enter during the heating season, c) to cover windows tightly at night during the heating season.

\* Individuals utilizing electric heat pump equipment that is not controlled by sophisticated balancing thermostats should discuss the potential for savings with their utility representatives prior to implementing a night or unoccupied thermostat setback program.